clot overnight than if it has been separated immediately after coagulation. This is not true with the serum from blood which has been salvarsanized *in vitro*. The addition of salvarsan directly to serum produces a more potent mixture than results from the serum from blood to which salvarsan has been added in equivalent amounts. The increase in activity of salvarsanized serum produced by heating to 56° C. is due in part to the removal of inhibitory substances in the serum and in part to a direct increase in spirocheticidal power in the heated salvarsan. Both salvarsanized and neosalvarsanized serum are rendered more spirocheticidal by heating. A more active spirocheticidal mixture is produced by mixing small amounts of salvarsan with the serum of a salvarsan-treated patient than with normal serum.

Immune Human Serum in the Treatment of Acute Poliomyelitis.—WELLS (*Jour. Am. Med. Assn.*, 1916, lxvii, 1211) says that the administration of immune serum in acute poliomyelitis is based on recognized principles of immunity. Because the lesions are not confined to the nervous system and because the lesions therein consist essentially of perivascular infiltration, intravenous injection of serum appears to be a rational procedure, either alone or in combination with intraspinal injection. Intravenous injections of serum should, if possible, consist of doses of from 50 to 100 c.c. or more daily. Following intravenous or intramuscular injections of serum, spinal fluid should be withdrawn. Intraspinal injections of serum usually produces an increase in the number of the leukocytes with increase in the proportion of polymorphonuclear cells in the spinal fluid. In the fifteen cases that Wells treated no ill effects followed the use of serum, either by intravenous or intraspinal injection. In all cases, after intravenous injection, and to a less degree after intraspinal injection, a noticeable improvement usually occurred, which, unfortunately, however, in some cases was only transient. Early administration of the serum is urged, necessitating therefore an early diagnosis of the disease; in severe cases late administration of the serum has produced little if any noticeable influence on the course.

The Action of Benzol.—WEIS ROTTEN, SCHWARTZ and STEENSLAND (*Jour. Med. Research*, 1916, xxxv, 63), in a previous communication, reported experimental work on the action of benzol by giving rabbits two or more daily subcutaneous injections of equal parts of olive oil and benzol. It was found that in all cases in which the animals survived the primary fall in the leukocyte curve there followed a primary rise which reached a normal level and in many instances reached the original level. This primary rise was always independently of any further injections, followed by a secondary fall, which in turn was followed by a secondary rise to a normal level. In the secondary fall the leukocyte curve almost invariably reached a level nearly as low as the primary fall, and in some instances even lower. Further work has given similar results. The authors' experience indicates that the mortality during the secondary fall is practically as great as during the primary fall. In all animals surviving the secondary fall there occurred a return of the leukocyte curve to a normal level, and there was no evidence of any subsequent falls. As a descriptive term appropriate for indicating the occurrence of the two periods of leukopenia above described Southard has suggested the term "diphasic leukopenia." For the first period, the authors suggest the term "Protophase," this extends from the onset of the primary fall and ends with the termination of the primary rise. The second period denoted "Deuterophase," extends from the onset of the secondary fall and ends with the termination of the secondary rise. The authors found this latter phase, following subsequent sets of subcutaneous injections of equal parts of olive oil and benzol in rabbits the same in every respect as that following a first set of injections.

Syphilis of the Nervous System.—FORDYCE (*Med. Rec.*, 1916, p. 575) in outlining the course to be pursued in the treatment of syphilis of the nervous system considers that the best procedure is to give provocative injections of salvarsan to patients with a negative blood and a positive spinal fluid, and take the Wassermann at stated intervals. If the Wassermann remains negative, subarachnoid treatments may be begun at once. When both blood and spinal fluid are positive, two or more injections of mercury should precede the intravenous administration of salvarsan and after two or three doses of the latter the intraspinal treatments are begun, supplemented by intravenous injections. In paresis, intraspinal injections are best begun after the first intravenous treatment, while the intervals between doses are regulated by the patient's reaction. Where subdural injections are well borne, they may be given in a series of four to six, one or two weeks apart with a rest period of four to six weeks before giving another course. Ogilvie's modification of salvarsanized serum is now used by Fordyce, in which method salvarsan is added directly to the blood serum. Blood serum removed indifferently from patients acts as well as autogenous serum, and the most important step in the technic, next to absolute asepsis, is the use of a nearly neutral salvarsan solution. The blood is removed from an arm vein and centrifugalized to secure complete removal of red cells. To 8 or 10 c.c. of this serum 0.05 to 0.5 mgm. of salvarsan is added and the mixture is incubated at 37° C. for thirty minutes. General paresis patients tolerate larger doses than those with tabes or other forms of cerebrospinal syphilis. The initial dose for tabetics should be 0.05 to 0.1 mgm., depending on the bladder involvement and the amount of pain present, and the quantity is gradually increased up to 0.2 to 0.3 mgm., if the patient will tolerate it. Activation of the lesions after the first injection is not a contra-indication, but calls for care. There seems to be no limit to the number of injections that can be given. Cure, amelioration or failure is dependent upon the extent and type of the morbid process. Success depends largely upon whether the morbid process is an active meningeal inflammation or a degeneration of essential nerve structures. Active inflammation with a strongly positive fluid gives a hopeful outlook, while degeneration with atrophy and sclerosis, with negative or weakly positive fluid, does not present so encouraging a prognosis. In his conclusions Fordyce states that all patients at the end of the first year of their infection should have a spinal puncture, whether or not they have any signs of the disease. If the fluid is negative to all tests, they may be assured that there is little danger of later development, whereas a positive